



# Biology Toolkit: Indicator 1.4.1

Student Handout: Biology: Indicator 1.4.1

## Goal 1.0 Skills And Processes

Expectation 1.4 The student will demonstrate that data analysis is a vital aspect of the process of scientific inquiry and communication.

Indicator 1.4.1 The student will organize data appropriately using techniques such as tables, graphs, and webs (for graphs: axes labeled with appropriate quantities, appropriate units on axes, axes labeled with appropriate intervals, independent and dependent variables on correct axes, appropriate title).

## Public Release - Selected Response Item - Released in 2009

Biology Indicator 1.4.1

Use the information below to answer the following item.

Methyl mercury is a toxic substance that can harm the nervous system. Some fish are contaminated with high levels of methyl mercury. In many places, these fish are an important food source. Experiments are being conducted to determine how many meals of contaminated fish can be safely consumed. The table below shows the concentration of methyl mercury in the fish and the number of meals that can be safely consumed per month.

The data collected during this experiment are summarized in the graph below.

The graph has been constructed incorrectly. Which of these needs to be corrected in order to improve the graph?

- A. The axes are labeled with inappropriate intervals.
- B. The dependent and independent variables are on wrong axes.
- C. The title is inconsistent with the investigation.
- D. One or both axes are missing units.

Correct Answer

- D. One or both axes are missing units.

## Item

Use the information below to answer the following item.

Methyl mercury is a toxic substance that can harm the nervous system. Some fish are contaminated with high levels of methyl mercury. In many places, these fish are an important food source. Experiments are being conducted to determine how many meals of contaminated fish can be safely consumed. The table below shows the concentration of methyl mercury in the fish and the number of meals that can be safely consumed per month.

The data collected during this experiment are summarized in the graph below.

The graph has been constructed incorrectly. Which of these needs to be corrected in order to improve the graph?

- A. The axes are labeled with inappropriate intervals.
- B. The dependent and independent variables are on wrong axes.
- C. The title is inconsistent with the investigation.
- D. One or both axes are missing units.